

Hints to Craniographers.

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Everywhere Ethnology, the youngest and most ambitious of the sciences, is at length beginning to receive that earnest attention which the grandeur, importance and acknowledged complexity of its problems demand. Treated at first as an eminently speculative and metaphysical study, it has come at length to be considered as amenable chiefly, if not entirely, to the purely scientific methods of research employed by the naturalist. Long ago, the Ethnology of the so-called philosophical school was simply a meagre Anthropology, made up almost wholly of certain national, psychologic phenomena of uncertain value and unknown relations. In the metaphysical systems of this school physical characters and the working formulæ of the naturalist found no place. But the attempt to separate the phenomena of mind from the physical conditions with which they are constantly associated in nature, proved as barren in results, as it was irrational in conception.

Anterior to the time of Linnaeus the *philosophy* of man was everything, the *science* nothing. Of the latter, the great Swedish naturalist was himself the founder and first exponent. After Linnaeus, came Buffon, Daubenton, Camper, Sœmmering, Blumenbach, Zimmerman, and others, who, by regarding, and therefore treating man, as falling legitimately within the scope of the zoological method, attracted serious attention to the study of Anthropology as one of the natural sciences. The labors of these savants formed the foundation of this study, and gave it an impetus which is felt even at the present day. It must be confessed, however, that since the days of Blumenbach, in whose hands it received its more exact and scientific form, the progress of the study has been both slow and irregular; and the facts collected neither so extensive, nor for the most part so thoroughly and satisfactorily established as could be desired. Buffon, Cuvier, Lawrence, Péron, Kœmbst, Davis, Wilson and others, have all, at different times, taken occasion to deplore and comment upon this evident neglect of an important investigation.

Closely examined, the cause of this manifest neglect, and consequent slow progress of the Ethnological branch of Anthropology, will be found to be two-fold. In the first place and for a long time, the study of man was by many entirely separated from that of the rest of creation. Barbaquois, Marcel de Serres, Ray, Brisson, Pennant, Vicq d'Azyr, and other naturalists following Aristotle, the illustrious founder of philosophical natural history, have all in succession ignored the physical character of man, by excluding him in their classifications from the animal kingdom. Thus effectually isolated, he has been treated from a mental point of view only, and his zoological affinities and analogies completely overlooked. Another class of observers, however, having a more comprehensive conception of nature, and the unity of design which pervades it, have at length recognised the animality of man, and placed him accordingly among, and at the head, of the Mammalia.

In the second place, the study has thus far been one of divided effort, undertaken by individuals who, at different times and in different places, widely separated from each other, have worked at and attempted to solve with varying success, each his own favorite problem, with little or no aid from, or correspondence with others interested in, and studying the same specialty. In a word, there has been little or no combination, or regularly systemized effort among the students of Ethnology.

Attempts, it is true, have not been wanting to establish such combinations, and appeals have been made to the scientific and general public, from time to time, by enthusiastic archaeologists and ethnologists, in behalf of some of the objects of their respective sciences. As early as 1817, Dr. Hodgkin, in an Essay on the Promotion of Civilization, pointed out the importance of preserving from annihilation the uncivilized races of men, that their physical characters, traditions, &c., might be carefully studied. In 1837, an *Aborigines Protection Society*

was formed in England, for the purpose of collecting information "concerning the character, habits and wants of the uncivilized tribes." But the benevolent objects of the Society finally engrossed the attention of its members to the exclusion of the ethnological. Two years later, Dr. Prichard, in the unwearied pursuit of his favorite study, called the attention of the British Association, then in session at Birmingham, to the rapid manner in which certain varieties of the human race were hastening on to extinction. He suggested to the Association the importance of making some effort to rescue from utter oblivion, the many historical, physiological and philological details, constituting, so to speak, the biography of these decaying races. His interesting paper, read before the Natural Historical Section of the Association, was, in fact, an appeal in behalf of Ethnology. This appeal met with a lively response in the appointment of a Committee to prepare a set of queries to be addressed to travellers and others whose opportunities were such as to enable them to give satisfactory answers to these queries. About the same time the Ethnographical Society of Paris, published a similar set of questions for travellers. In 1842, Dr. King, of London, urged upon the scientific public, the wants and interests of Ethnology, in a prospectus issued July 20th, for the formation of an Ethnological Society. In 1844, after many of the barbarous races had disappeared forever from the face of the earth, Drs. King and Hodgkin endeavored in conjunction, "to excite sufficient interest to command the necessary means for preserving a record of the living, and of that which remains of the dead." (*Anniversary Address to the Ethnological Society of London*, 25th May, 1844.) In 1841 we find the late Mr. Geo. R. Gliddon appealing to the Antiquaries of Europe in behalf of the monuments of Egypt, which at that time, to use his own language, "were disappearing with frightful rapidity from the banks of the Nile." (*Otia Egyptiaca*, p. 7). In 1852, in a highly interesting pamphlet, entitled "*Questions Relatives à l'Ethnologie Ancienne de la France*," read before the Society of Antiquaries of that country, M. Alfred Maury pressed upon the attention of the correspondents of the Society, the necessity of investigating, ere it was too late, the physiological and national characters of the dissimilar races inhabiting the different cantons of France; their costumes, usages, linguistic and cognominal peculiarities, &c. Prichard long ago hoped that specimens of the craniology of Britain would not be suffered to fall into decay. In 1855 Mr. A. H. Rhind, actuated by the same feeling, sent forth a "vigorous appeal for the preservation of the 'monuments of primeval Britain,'" which appeal has found a truly scientific and valuable response in the *Crania Britannica* of Messrs. Davis and Thurnam, who are successfully attempting "to rescue and perpetuate the faithful lineaments of a sufficient number of the skulls of the ancient races of Britain, to preserve authentic data for the future." Davis strenuously urges the importance of studying the diversified races of the British Islands "with constant reference to their origin and history, and taking their cranial and other physical properties as a basis."

The human skull is so positively distinctive of race, that it claims at the hands of the student of Anthropology the most minute examination. The receptacle of the brain, of the organs of the senses and the masticatory apparatus, it exhibits race-characters more striking and distinguishing than those presented by any other part of the bony system. The pelvis, perhaps, comes next to it in ethnographic importance. The configuration of the skull influences to a considerable extent the characters of the countenance and shape of the features. "Hence, our zoological study of man," says Lawrence, writing in 1819, "will be greatly assisted by carefully examining genuine specimens of the skulls of different nations, which are easily prepared and preserved, may be conveniently handled and surveyed, considered in various points of view and compared to each other." Just twenty-one years afterwards, Wilde of Dublin wrote: "It is now universally admitted by the first authorities in this science, that to the form and character of the head can we alone refer in order to determine the varieties of

man, either existing or extinct." (*Narrative of a Voyage to Madeira, Teneriffe, and along the shores of the Mediterranean*. By R. W. Wilde, Dublin, 1840, vol. 2.)

Craniography is in truth destined to constitute one, perhaps the most important of the corner stones upon which the great edifice of the Natural History of Man is to be hereafter erected. To become a sure and solid foundation it must be composed of numerous and well-established facts upon which the student may unhesitatingly build up, until he can overlook and successfully grapple with the higher problems of the science. Like its elder sisters Astronomy, Geology and Palæontology in former times, Ethnology is at present passing through what Comte calls the metaphysical or speculative phase of its career. Obscure writers and lecturers, impatient of that careful and laborious research which leads to correct results, and unacquainted even with what has already been done by Blumenbach, Retzius, Morton, Huschke, Davis, Virchow and others, are daily bringing disrepute upon the whole study, by unwisely discussing questions for the solution of which the data have not yet been developed. That these controversialists of an hour may be silenced, and the science positively advanced, every effort should be made to multiply and classify facts. But the multiplication and classification of facts must in great measure keep pace with and be dependent upon the establishment of cranial collections, which constitute, so to speak, the store-houses of the raw material ready to be elaborated into a science.

These collections and the important studies which they facilitate, are daily attracting more and more the attention of scientific men both in Europe and America; and the conviction is constantly gathering strength, that the zealous cultivation of Craniography is capable of yielding facts of the highest importance, not only in a purely scientific, but also in a political point of view.

In the "summer of 1830, Dr. S. G. Morton delivered a lecture, introductory to a course of anatomy, on the 'different forms of the skull, as exhibited in the five races of men.' Strange to say, he could neither buy nor borrow a cranium of each of these races; and he finished his discourse without showing either the Mongolian or Malay. Forcibly impressed with this great deficiency in a most important branch of science, he at once resolved to make a collection for himself; and after a lapse of sixteen years, deposited in the Academy of Natural Sciences of Philadelphia a series embracing upwards of 700 human crania, and an equal number of inferior animals." This collection, now in the possession of the Academy, contains at the present time about 1100 crania, representing more than 170 different races and tribes of the human family.

The establishment of this large and varied collection, and the important investigations to which it has given rise, have served to stimulate sensibly the advance of Craniography in Europe. Some years ago, "the Emperor of Russia was induced to found at St. Petersburg a national museum, exclusively dedicated to craniology, to contain the skulls of all the ancient and modern races of his vast dominions," (See Squiers' *American Ethnology*, p. 3). All over Europe, Craniography is now being cultivated with considerable activity, and with highly valuable results, by such men as Retzius, Nilsson and Eschricht of Scandinavia, Gosse of Geneva, Dumoutier, Blanchard and Serres of France; Engel, Zeune, Carus, Virchow, Huschke, Lucæ, Fitzinger and others of Germany; and by Davis, Thurnam, Williamson, Minchin and others in Great Britain.

Many cranial collections are to be found in Europe and America, differing in the number and ethnic variety of their specimens. Precise information, however, as to their location, extent, variety and proprietorship is not easily obtained. From the writings of the craniographers above mentioned, and from my correspondents—especially Dr. J. Barnard Davis, of Shelton, England—I have become acquainted with a few of these collections. The largest and most diversified, as far as I know, is that contained in the Museum of the Army Medical Department, at Fort Pitt, Chatham, England. Of the existence of this collection I was not aware, until a descriptive catalogue of it appeared in the *Dublin Quarterly Journal of Medical Science*, for May and August, 1857. Through

the kindness of Dr. George Williamson, the author, I have since received a copy of this catalogue, containing valuable photographs of many of the skulls.

The skulls embraced in the Chatham collection number about 600, and are arranged in 4 classes; 1st, oval-shaped skulls, including Europeans, Egyptians, Afghans, Hindoos, Singalese, New Zealanders, Otaheitans, &c.; 2d, skulls with projecting alveolar processes, or with the nasal bones in the same plane, comprising West African Negroes, Kaffirs, Hottentots, Bushmen, inhabitants of Mozambique and Madagascar, and the black natives of Mauritius, New South Wales and Van Diemen's-land; 3d, skulls with very prominent superciliary ridges, containing Sandwich Islanders, and 4th, skulls with broad and flat face, including Burmese, Malays, Chinese, Eskimos and North American Indians. The collection appears to be quite diversified. It contains specimens of about 70 different tribes and nations. Among these are many not represented in the Academy's collection: such as Albanians, Maltese, Spanish, Baluchi, Pariahs and Singalese among the oval-headed; and Mandingos, Joloffs, Timmanni, Sossos, Kassos, Hausas, Hanti, Attans or Oppas, Pappas or Mahais, Barconkas, Ashantis and others of the prognathous African form.

Dr. Williamson's Catalogue is a very acceptable addition, not only to the literature of Craniography, but also to the means by which this science might be advanced. It contains short but important descriptions of 547 crania, and 7 skeletons of different races of men, with extensive measurements of the same. The appendix embraces a number of anatomical measurements, estimates of the internal capacity, and a valuable table showing the relative frequency with which the ossa triquetra or Wormian bones appear in the occipital suture in the different varieties of men; the number of instances in which the sphenoid is cut off from the parietal bone by a process of the temporal; the number of instances in which the lachrymal groove is formed entirely on the nasal process of the superior maxillary bone; the frequency of a suture in the centre of the frontal bone; and the size of the occipital foramen in the various races. The author also calls attention to the difference in the form of the anterior nasal openings in different classes of skulls, and illustrates his remarks with a number of outline engravings.

Of the present location and condition of the collections made by the earlier craniologists—those industrious pioneers of the science—I know nothing. Soemmering, writing in 1785, speaks of having examined the collections of Camper at Klein-hankum; of Hovius at Amsterdam; of Walter at Berlin; and of Blumenbach at Göttingen, (*Ueber die Körperliche Verschiedenheit des Negers vom Europäer*.) In the course of my reading, I have often found allusion to the cranial cabinets of Rau, (mentioned in Sandifort's *Museum Anatomicum*,) Albinus, Gualtherus van Doeveren, Munro, Kokilansky of Vienna and many others. Derwent Conway, in a work on Switzerland, published in 1830, says that "at the site of the cemetery of Zug is a Golgotha, where are thousands of skulls piled upon one another." Of Gall's famous collection, a catalogue, translated from the French of Dr. Dauncey, his pupil and friend, appeared some years ago, in the 6th Vol. of the *Edinburgh Phrenological Journal and Miscellany*. In 1824 or 5 Mad. Becker, the niece of Gall's first wife, presented a portion of this collection to Dr. Roulett of Baden, near Vienna. Vimont's collection, in 1828, amounted to more than 1200 skulls and casts of man and animals. The celebrated Deville collection, at the Strand, in London, numbered in 1830, more than 1800 casts and skulls. The Hunterian Museum, according to Prof. Owen's Catalogue published in 1853, contains a number of human crania. Judging from the numerous donations recorded, from time to time, in the different volumes of the *Edinburgh Phrenological Journal*, the Museum of the Society of that name must contain quite a large cranial collection. The collection of the Society of Antiquaries of Scotland was catalogued by Prof. D. Wilson, while acting as Secretary of that Society. Twenty-five years ago, when Phrenology was exciting so much attention, numerous Phrenological Societies were founded in various parts of Great Britain. Busts, casts and skulls of men and animals

were industriously collected and deposited in the Museums of these Societies. But many of the latter having ceased to exist, after a few years of activity, it is not now easy, though very desirable, to obtain any information concerning the disposal made of their collections.

Cranial collections are also contained in the Cabinets and Museums of many scientific associations, colleges, universities, &c., throughout Europe, such as the Royal College of Surgeons, in London and Dublin, Guy's Hospital, the Yorkshire Philosophical Society, the Bristol Infirmary, the Senckenberg Natural History Society, the Josepheum in Vienna, the University of Dorpat, the Fremley Museum at Utrecht, Rijks Museum and the Anatomical Cabinet at Leyden, &c. &c.

In a letter dated Shelton, 25th Dec. 1857, my friend Mr. J. Barnard Davis informs me that his private collection, at present, "exceeds 450 specimens." In the Museum of Thos. Bateman, Esq., at Lomherdale House, Derbyshire, England, are numerous "skeletons, skulls, and separate bones, exhumed from tumuli chiefly of the Celtic period in Derbyshire, Staffordshire and Yorkshire," amounting at the time of the publication of his excellent antiquarian catalogue (1855) to 224 specimens. Among other private collections may be mentioned those of Retzius, Nilsson, Eschricht, Van der Hoeven, Thurnam, &c.

The Mortonian collection, in this Academy, is by far the largest and most diversified in the United States, and, as far as I can learn, in the world. The Smithsonian Institution is in possession of several hundred crania, chiefly of American Indians. I have examined a few, also, in the Patent Office in Washington. Most of the cranial collections in this country are small and are principally contained in the Museums of Scientific Associations, Medical Colleges, Phrenological Societies, &c. In this city (Philadelphia) the Museum of the University of Pennsylvania contains 169 skulls; that of the Jefferson College 72; that of the Pennsylvania College 125; and that of the Philadelphia College of Medicine 80.

In the *Canadian Journal of Industry, Science and Art* for October, 1855, "special directions were given with a view to the formation of a collection of Ancient Crania, illustrative of Canadian Ethnology." In the same Journal for November, 1856, the Editor Prof. D. Wilson, re-produces some of these directions, in the hope of securing a more careful attention to the preservation of the human remains and relics of art found in the ancient sepulchral deposits in Canada. He appeals to the "members of the Canadian Institute, who are scattered over nearly every district of the Province," to contribute their share to the elucidation of Ethnological Science, by rescuing from destruction the remains of the ancient and more recently displaced aborigines, and the specimens of their rude arts, brought to light in the course of the agricultural, railway, and other operations, which are extending into new districts, breaking up virgin soil, and leading to extensive excavations in regions hitherto untouched by the spade or plough.

From a later number of this Journal (November, 1857) it appears that in Canada there are several small collections of human crania contained in the Museums of the Canadian Institute, the Toronto University, Trinity and Knox's Colleges, and in the private cabinets of Prof. Wilson, and Drs. Hodder and Bovell, of Toronto, and the Rev. Jno. Gray, of Orillia.

Now, from the foregoing remarks, the members of the Academy will perceive that, to the student of craniology, catalogues of all such collections, whether large or small—especially if they be descriptive—are of very considerable value. They make known to him the existence of other collections besides his own, and inform him what races and tribes of men are represented therein, or in other words, precisely how much and what available material has been collected for the furtherance of his scientific specialty. He may be desirous of studying the cranial characters of a particular race, of which the specimens in the only collection to which he has access are few in number or of doubtful origin. Having exact catalogues of the various cranial collections which have been made, from time to time, and deposited in different parts of the world, he

turns to these and at once learns how many specimens of this race, besides his own, have been collected and where they are located. He at once opens a correspondence with the proprietors of these collections, and is soon put in possession of any information which he may desire.

Moreover, these catalogues would form an admirable basis for the interchange of duplicate crania, for the owners of them would know exactly where to apply to make up their deficiencies. The correspondence, also, to which the interchange of catalogues and duplicate crania would give rise, would of itself greatly facilitate the progress of Craniography, by making the students of this science acquainted with each other, and enabling them by a private interchange of opinions to verify their conclusions or examine them in different points of view before publication. There can hardly be a doubt that the different collections would be respectively increased by the extensive distribution of such catalogues in the hands of army, navy, and other government officials, officers of merchantmen, travellers, naturalists connected with exploring expeditions, and others whose opportunities might be favorable to making such collections, and who would cheerfully do so were their attention once explicitly directed to this matter.

Again, it appears to me that the progress of craniography might be very much and very readily facilitated by some such plan or system of co-operation as the following. Let all those actually engaged or interested in the study, in any particular country, notify the secretary, or appropriate officer, of the most prominent and best known scientific institution in that country, of the existence and precise location of any collection of crania with which they may be acquainted, no matter how small or imperfect such a collection may be, stating carefully the name and address of the Society or individual owning the collection, the number of skulls contained, and the different races of men represented therein. Let the secretary or other officer receiving such communications cause them to be published from time to time in the printed journal, transactions or proceedings of the Society. These being sent in exchange or otherwise, to scientific associations and individuals in other countries, would thus become the vehicle for the transmission of this information to the craniographers of the latter places.

The editors of scientific, medical and literary magazines, journals, reviews, &c., have it in their power greatly to promote craniographic science by inserting in their pages from time to time, and thus disseminating the information obtained in the manner indicated above. This statement particularly applies to medical Journals, inasmuch as most of those cultivating Craniography are physicians, not a few of whom are in the active public or private practice of their profession.

These crude suggestions are offered to the Academy in the hope that, being distributed with its Proceedings, they may attract the attention and active support of those who are interested in, and who are able and willing to advance so important a branch of the *Science of Man*.